

Claims

We claim:

1. A fiber optic stub fiber connector for reversibly and nondestructively terminating an inserted field fiber having a buffer over at least a portion thereof, said connector comprising:
 - a housing;
 - a ferrule including a stub fiber disposed within and extending from a bore through said ferrule, said ferrule being at least partially disposed within and supported by said housing; and
 - a reversible actuator for reversibly and nondestructively terminating said inserted field fiber to said stub fiber, said reversible actuator including a buffer clamp for engaging with said buffer to simultaneously provide reversible and nondestructive strain relief to said terminated field fiber.

2. A connector in accordance with claim 1 wherein said reversible actuator is movable alternately between a first position wherein said inserted field fiber is held in generally abutting alignment with said stub fiber and said buffer of said field fiber is generally clamped by said buffer clamp to provide strain relief to said terminated field fiber and a second position wherein said field fiber is not generally held within said connector and said buffer is not generally clamped by said buffer clamp.

3. A connector in accordance with claim 2 wherein said reversible actuator is a cam.

4. A connector in accordance with claim 3 wherein said cam includes a lever for rotatively actuating said cam.

5. A connector in accordance with claim 4 wherein said lever is rotatively limited by said housing upon reaching at least one of said first and second positions.

6. A connector in accordance with claim 3 wherein said cam includes at least two cam surfaces, a first of said cam surfaces for reversibly and nondestructively terminating said inserted field fiber to said stub fiber and a second of said cam surfaces for providing reversible and nondestructive strain relief to said buffer.

7. A connector in accordance with claim 1 further including a ferrule holder disposed within said housing.

8. A connector in accordance with claim 7 wherein said ferrule holder includes at least one plank disposed therein and a window through which an extension portion of said plank extends so that said extension portion is accessible by said reversible actuator.

9. A connector in accordance with claim 7 further including a backbone retained by said housing and having a threaded portion extending from said housing.

10. A connector in accordance with claim 7 further including a retention nut having a threaded portion cooperative with said threaded portion of said backbone to reversibly attach said retention nut to said backbone and thereby provide strain relief.

11. A connector in accordance with claim 7 wherein said buffer clamp includes a clip portion for clipping around said ferrule holder.

12. A connector in accordance with claim 1 wherein said buffer clamp includes an inclined buffer engagement surface to provide a lead-in for said buffer of said field fiber.

13. A connector in accordance with claim 1 wherein said buffer clamp includes teeth for enhancing said engagement with said buffer.

14. A connector in accordance with claim 1 wherein said connector is of the SC-type.

15. A connector in accordance with claim 1 wherein said connector is of the FJ-type.

16. A fiber optic stub fiber connector for reversibly and nondestructively terminating an inserted field fiber having a buffer over at least a portion thereof, said connector comprising:

a housing;

a ferrule including a stub fiber disposed within and extending from a bore through said ferrule, said ferrule being generally disposed within and supported by said housing; and

a reversible actuator for reversibly and nondestructively terminating said inserted field fiber to said stub fiber, said reversible actuator for simultaneously providing reversible and nondestructive strain relief to said terminated field fiber.

17. A connector in accordance with claim 16 wherein said reversible actuator is manually movable alternately between a first position wherein said inserted field fiber is held in generally abutting alignment with said stub fiber and a second position wherein said field fiber is not generally held within said connector.

18. A connector in accordance with claim 17 wherein said reversible actuator is a cam.

19. A connector in accordance with claim 18 wherein said cam includes a manually rotatable lever for actuating said cam.

20. A connector in accordance with claim 19 wherein said lever is rotatively limited by said housing upon reaching at least one of said first and second positions.

21. A connector in accordance with claim 16 further including a ferrule holder disposed within said housing.

22. A connector in accordance with claim 21 wherein said ferrule holder includes at least one plank disposed therein and a window through which an extension portion of said plank extends so that said extension portion is accessible by said reversible actuator.

23. A connector in accordance with claim 21 further including a backbone retained by said housing and having a threaded portion extending from said housing.

24. A connector in accordance with claim 21 further including a retention nut having a threaded portion cooperative with said threaded portion of said backbone to attach said retention nut to said backbone and thereby provide strain relief.

25. A connector in accordance with claim 16 wherein said connector is of the SC-type.

26. A connector in accordance with claim 16 wherein said connector is of the FJ-type.

27. A cam-actuated buffer clamp disposed within a fiber optic stub fiber connector for providing reversible and nondestructive strain relief to a buffered field fiber terminated within said connector, said buffer clamp comprising:

- an attachment portion for attaching said buffer clamp to said connector;
- an engagement portion for reversibly engaging with and disengaging from said buffered field fiber to provide reversible and nondestructive strain relief thereto; and
- an actuation portion for interacting with said cam for toggling said engagement portion of said clamp between engaging and disengaging with said buffered field fiber.

28. A buffer clamp in accordance with claim 27 wherein said connector includes a ferrule holder and said attachment portion of said buffer clamp includes a clip for generally circumscribing said ferrule holder.

29. A buffer clamp in accordance with claim 27 wherein said engagement portion includes an inclined buffer engagement surface to provide a lead-in for said buffered field fiber.

30. A buffer clamp in accordance with claim 27 wherein said engagement portion includes teeth for enhancing said engagement with said buffered field fiber

31. A buffer clamp in accordance with claim 27 wherein said connector includes a cam and said actuation portion includes a cam-following portion interactive with said cam for toggling said engagement portion of said clamp between engaging and disengaging with said buffered field fiber.

32. A buffer clamp in accordance with claim 27 wherein said connector is of the SC-type.

33. A buffer clamp in accordance with claim 27 wherein said connector is of the FJ-type.

34. A method for terminating a field fiber to a stub fiber and reversibly and nondestructively unterminating said field fiber from said stub fiber, said method comprising the following steps:

providing a fiber optic connector having a ferrule with said stub fiber disposed within and extending from a bore extending through said ferrule, said connector including a manually actuatable and reversible cam;

inserting a partially stripped buffered field fiber into said connector such that said field fiber generally interfaces with said stub fiber within said bore;

actuating said cam to terminate said field fiber to said stub fiber within said bore and retain said field fiber within said fiber optic connector at a point other than said interface with said stub fiber; and

reversing said cam to nondestructively unterminate said field fiber from said stub fiber and release said field fiber from said retention within said fiber optic connector such that said manually actuating said cam step may be repeated with said connector to again terminate said field fiber to said stub fiber and again retain said field fiber within said connector.

35. A method in accordance with claim 34 wherein said cam includes a lever to facilitate manual actuation thereof.

36. A method in accordance with claim 34 wherein between said actuating step and said reversing step, the method includes the additional step of determining whether a sufficient termination between said stub and field fibers has been achieved.

37. A method in accordance with claim 34 wherein said determining step involves using a visible fault locator.

. . . 38. A method in accordance with claim 34 wherein said connector is of the SC-type.

39. A method in accordance with claim 34 wherein said connector is of the FJ-type.

40. A fiber optic stub fiber connector for terminating an inserted field fiber having a buffer over at least a portion thereof, said connector comprising:

a housing;
a ferrule including a stub fiber disposed within and extending from a bore through said ferrule, said ferrule being at least partially disposed within and supported by said housing;
a first actuator for terminating said inserted field fiber to said stub fiber; and
a second actuator for releasably engaging said buffer to provide reversible and nondestructive strain relief to said terminated field fiber.

41. A connector in accordance with claim 40 wherein said first and second actuators are not independent and actuation of one simultaneously causes activation of the other.

42. A connector in accordance with claim 40 wherein said first actuator is reversible such that it reversibly and nondestructively terminates said inserted field fiber to said stub fiber.

43. A connector in accordance with claim 42 wherein said first actuator is a cam.

44. A connector in accordance with claim 40 wherein said second actuator is a cam.

45. A connector in accordance with claim 40 wherein said second actuator includes a buffer clamp.

46. A connector in accordance with claim 40 wherein said connector is of the SC-type.

47. A connector in accordance with claim 40 wherein said connector is of the FJ-type.

48. A fiber optic stub fiber connector for terminating an inserted field fiber, said connector comprising:

an inner housing; and

a cam movable alternately between a first position wherein said inserted field fiber is held in generally abutting alignment with said stub fiber and a second position wherein said field fiber is not generally held within said connector, said cam having a lever for rotatively actuating said cam;

wherein said lever is rotatively limited by said inner housing upon reaching at least one of said first and second positions.

49. A connector in accordance with claim 48 further including an outer housing slidable over said inner housing and cam when said cam is in at least one of said first and second

positions to, in conjunction with said inner housing rotatively fixing said cam and said lever in place.

50. A fiber optic stub fiber connector for terminating an inserted field fiber having a buffer over at least a portion thereof, said connector comprising:

an inner housing; and

a cam movable alternately between a first position wherein strain relief is applied to said buffer and a second position wherein no strain relief is applied to said buffer, said cam having a lever for rotatively actuating said cam;

wherein said lever is rotatively limited by said inner housing upon reaching at least one of said first and second positions.

51. A connector in accordance with claim 50 further including an outer housing slidable over said inner housing and cam when said cam is in at least one of said first and second positions to, in conjunction with said inner housing rotatively fixing said cam and said lever in place.